

INTERNATIONAL SEARCH REPORT

PCT/US2005/003942

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 F16L11/04 B32B1/08 B32B27/34

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 F16L B32B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	FR 2 766 548 A (HUTCHINSON) 29 January 1999 (1999-01-29) claims 1,5,6,8 page 1, line 3 - line 7 page 2, line 4 - line 16 page 2, line 33 - page 3, line 5	1-12,14, 20-23, 25-30
Y	page 3, line 13 - line 29 page 4, line 29 - line 31	13, 15-19,24
X	EP 1 355 098 A (NOBEL PLASTIQUES) 22 October 2003 (2003-10-22) claims 1,2,4-7 paragraphs '0001!, '0008!, '0009!, '0011! - '0018! ----- -/-	1-12,14, 20-23, 25-30

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

G document member of the same patent family

Date of the actual completion of the international search

27 May 2005

Date of mailing of the international search report

08/06/2005

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax (+31-70) 340-3016

Authorized officer

Girard, S

BEST AVAILABLE COPY

INTERNATIONAL SEARCH REPORT

PCT/US2005/003942

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 1 362 692 A (MAGNETI MARELLI POWERTRAIN SPA) 19 November 2003 (2003-11-19) claims 1-5 paragraphs '0001!', '0002!', '0016!', '0018!'	1-3, 6-12, 14
X	EP 0 470 605 A (EMS-INVENTA AG) 12 February 1992 (1992-02-12) claims 1,4,9,10,13 page 2, line 1 - line 12 page 3, line 1 - line 6 page 3, line 25 - line 29	1-4, 6, 10-12, 14, 20-23, 25-30
Y	US 2002/090477 A1 (ITO HIROAKI ET AL) 11 July 2002 (2002-07-11) claims 1,9,13,16-18,20	13, 15-19, 24
A	EP 1 022 132 A (TEIJIN LIMITED) 26 July 2000 (2000-07-26) claims 1,21	1-30

INTERNATIONAL SEARCH REPORT

PCT/US2005/003942

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
FR 2766548	A	29-01-1999	FR	2766548 A1	29-01-1999
EP 1355098	A	22-10-2003	FR	2838501 A1	17-10-2003
			BR	0300879 A	17-08-2004
			CA	2424533 A1	15-10-2003
			EP	1355098 A1	22-10-2003
			US	2003192612 A1	16-10-2003
EP 1362692	A	19-11-2003	IT	B020020304 A1	17-11-2003
			BR	0301518 A	08-09-2004
			EP	1362692 A1	19-11-2003
			US	2004065378 A1	08-04-2004
EP 0470605	A	12-02-1992	DE	4025300 C1	20-02-1992
			CA	2048715 A1	10-02-1992
			EP	0470605 A1	12-02-1992
			JP	4248088 A	03-09-1992
US 2002090477	A1	11-07-2002	JP	2001179798 A	03-07-2001
			EP	1118808 A2	25-07-2001
			US	2001031330 A1	18-10-2001
EP 1022132	A	26-07-2000	DE	69920393 D1	28-10-2004
			EP	1022132 A1	26-07-2000
			US	6376043 B1	23-04-2002
			WO	0005070 A1	03-02-2000
			TW	500662 B	01-09-2002